

## CLEAN VERSION OF AMENDED SPECIFICATION PARAGRAPHS

### A SOLVENT PREWET AND METHOD TO DISPENSE THE SOLVENT PREWET

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Serial No.: Unknown

#### Paragraph beginning at page 3, line 28:

The photoresist is deposited on each wafer after the wafer is mounted in the process bowl of a track coating unit. One partial solution to controlling the amount of solvent (and other photoresist materials) used is to use a chemical dispensing unit which provides tighter control over the amount of solvent deposited on any one wafer. One such system is described in European Patent 618,504, issued to Hasebe. Hasebe describes a system employing a specialized dispensing head which has a single nozzle for dispensing solvent and a single nozzle for dispensing resist solution. Hasebe controls where the material is dispensed on the wafer by moving the dispense head to different locations relative to the wafer. The system disclosed in Hasebe requires, however, a number of specialized devices, including a moveable dispense head, a pump for the solvent and a temperature adjustment mechanism. This type of system reduces the waste of solvent resulting from over-application, as well as increasing wafer-to-wafer consistency due to the more accurate dispensing of the material. This is only a partial solution, however, because even though a variety of units for dispensing chemicals in this manner are marketed, the units are designed for low volumes of low viscosity fluids. In addition, each unit is a specialized system, so when a shop wishes to employ such a method the shop has to retrofit or replace existing equipment. This results in reduced production flow, and overhead costs are significantly increased.

#### Paragraph beginning on page 7, line 15:

Conventional processes primarily employ a three-component photoresist, with either ethyl lactate (EL) or propyleneglycol monomethylether acetate (PGMEA) as the preferred solvent component. Both of these substances have a rather high evaporation rate, however, which shrinks the process control window. To compensate, conventional systems use more photoresist as well as a greater percentage of solvent to total photoresist volume. In contrast, according to one aspect of the present invention, a low vapor-pressure solvent is used. In one embodiment a mixture of aliphatic ester and diacetone alcohol is used as the solvent component. The ratio of the materials can range from 10% ester and 90% alcohol, to 30% ester and 70% alcohol. The dissipation rate of this solvent is significantly reduced over

conventional solvents because diacetone alcohol has a heavier molecule, creating a very low pressure solvent. The rate of evaporation is up to ten times lower than that of the conventional solvents. One direct result is that semiconductor processing incorporating this type of solvent requires very little solvent to achieve very good resist thickness profiles. With the diacetone alcohol solvent, the process uses as little as 0.3-1.0 cc solvent prewet solution per wafer (as compared to 1.0 cc or greater solvent solution per wafer).

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